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| 30678 7590 11/19/2008<br>CONNOLLY BOVE LODGE & HUTZ LLP<br>1875 EYE STREET, N.W.<br>SUITE 1100<br>WASHINGTON, DC 20006 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| ROCCA, JOSEPH M  |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/575,167

**Applicant(s)**

RHEIN, JACKV

**Examiner**

JOSEPH ROCCA

**Art Unit**

3616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. With respect to the claim limitation as to claim 6 discussing a "variation in the pitch of an end portion of a corresponding end turn bearing against said at least one support is negative," it is not completely clear what this limitation is referring to as no frame of reference is given to determine how to decide if the pitch is negative as claimed. Accordingly, this claim will be rejected as best understood.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rumpel (U.S. 4,400,008) in view of Scheublein et al. (U.S. 3,773,346). To the extent the claim is best understood.

Rumpel discloses a vehicle suspension including a subassembly constituted by a coil spring (Elements 31) mounted to bear between two supports of variable spacing (Figs. 1-4, Elements 30 and portion near element 74 where spring is seated to chassis (see, Col. 3, Lines 23-26), wherein at least one support among said two supports is constrained to move along a trajectory that is curved relative to the other support among said two supports (Applicant should note in Figs. 1-4, that the suspension arm pivots from a point inboard from the spring, as such this requires the bottom support to move in a trajectory that is curved relative to the other support).

Rumpel does not discuss the coil spring in great detail; however, based on the disclosure of Rumpel it is apparent that the coil spring must be a coil spring suitable for a rear wheel suspension. Nevertheless, it is not possible to determine, whether the variation in the pitch of an end portion of a corresponding end turn bearing against said at least one support is negative (in addition to the fact that this is indeterminable based on the indefiniteness of the claims).

Scheublein discloses a vehicle suspension system, wherein coil spring used for the rear suspension (Element 14) is best understood, based on the figures and disclosure of applicants invention, to disclose a coil spring wherein the variation in the pitch of an end portion of a corresponding end turn bearing against said at least one support is negative (Fig. 2). Scheublein teaches that a coil spring of the type shown in Figure 2, is beneficial to be used as a rear coil spring in a vehicle spring on the basis, that front and rear suspensions are better tuned and balanced when a load is added to

the vehicles trunk, such that optimum ride characteristics are maintained when the vehicles trunk is loaded (Col. 2, Line 60 to Col. 3, Line 34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rumpel to utilize a coil spring of the type disclosed by Scheublein, which is best understood to have a variation in the pitch of an end portion of a corresponding end turn bearing against said at least one support is negative, in view of the teachings of Scheublein, so as to achieve the desirable result of having a better balanced and tuned suspension that maintains optimum ride characteristics when the vehicles trunk is loaded. As an additional note the applicant should observe that the choice to use the coil spring of Scheublein in place of the coil spring of Rumpel would have been obvious, since it has been held that the simple substitution of one known, equivalent element for another to obtain a result that would have been predictable to one of ordinary skill at the time of invention is obvious, and here making a substitution of one coil spring for another is a simple and predictable substitution of two equivalent elements (i.e. one coil spring for another).

With respect to claim 8, the combination of Rumpel in view of Scheublein further teaches that end turn is of a diameter smaller than a mean diameter of other turns of said spring adjacent to said end turn (applicant should observe figure 2 of Scheublein and note the end coils of spring).

5. Claims 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rumpel (U.S. 4,400,008) in view of Scheublein et al. (U.S. 3,773,346) as applied to

claims 6 and 8 above, and further in view of Hasegawa et al. (U.S. Pub. App. 2001/0011791 A1).

The combination of Rumpel in view of Scheublein does not clearly further disclose that said end turn of the spring is off-center relative to a general axis of said spring. Hasegawa discloses a spring wherein an end turn is off-center relative to a general axis of said spring (Fig. 19, Element 15, wherein the center point of the middle of the spring is taken as the general axis of the spring).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the combination of Rumpel in view of Scheublein, to utilize a coil spring having an end turn is off-center relative to a general axis of said spring, in view of Hasegawa, since doing so would create a spring that is more responsive to receiving forces that are in the line of movement of the suspension member, thereby improving handling and ride quality. Meaning that the spring absorbs forces in the direction of travel of the vehicles suspension arm (note suspension travel as shown in figures 1 and 4 of Rumpel).

Regarding claim 9, the combination of Rumpel in view of Scheublein, further in view of Hasegawa further discloses that said end turn is of a diameter smaller than a mean diameter of other turns of said spring adjacent to said end turn (see, figure 2 of Scheublein).

With respect to claim 10, the combination of Rumpel in view of Scheublein, further in view of Hasegawa further discloses that the end turn is substantially tangential to a cylinder defined by said other turns when said spring is in a non-stressed state (the

applicant should note that the examiner is taking the word tangential as meaning "Merely touching or slightly connected." See, "tangential." The American Heritage® Dictionary of the English Language, Fourth Edition. Houghton Mifflin Company, 2004. 03 Nov. 2008. <Dictionary.com <http://dictionary.reference.com/browse/tangential>>). Accordingly, since the claim recites the limitation substantially tangential, and substantially is a broad term that does not require absolute compliance, in another words the use of substantially merely requires that the end turn must be nearly touching and/or close to a cylinder defined by said other turns when said spring is in a non-stressed state, to the extent that term may be broadly and reasonably defined. Here, in viewing the end portions of the coil spring taught by the combination of Rumpel in view of Scheublein, further in view of Hasegawa, it can be seen that the end turn is substantially tangential to a cylinder defined by said other turns when said spring is in a non-stressed state, at least to the extent the terms may be broadly and reasonably understood.

6. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rumpel (U.S. 4,400,008) in view of Scheublein et al. (U.S. 3,773,346) further in view of Hasegawa et al. (U.S. Pub. App. 2001/0011791 A1) as applied to claims 7, 9, and 10 above, an, and further in view of Tachikawa et al. (U.S. 5,092,568). The combination of Rumpel in view of Scheublein, further in view of Hasegawa discloses all of the limitations of claims 11 and 12 except for the at least one support including a stud shaped and dimensioned so as to fit in said end turn. Tachikawa discloses the use of a spring support that includes a stud shaped and

dimensioned so as to fit in said end turn (Figs1-3, Elements 15-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified the combination of Rumpel in view of Scheublein, further in view of Hasegwa, such that said at least one support includes a stud shaped and dimensioned so as to fit in said end turn, in view of Tachikawa, so as to ensure that the suspension is not damaged in the event of a situation where suspension travel beyond that expected under normal design conditions occurs [for instance the driver mistakenly drives into a ditch or goes off the road due to ice, etc.], by providing an extra level of protection which would prevent the spring from being moved out of alignment or otherwise removed from one or both of the spring supports.

#### ***Response to Arguments***

7. Applicant's arguments filed 9/16/08 have been fully considered but they are not persuasive with respect to the rejection of claims 6-12 under 35 U.S.C. 112, second paragraph. In the field of springs the most that can be understood from the term pitch is that the term pitch as related to a coil spring typically refers to the distance from center-to-center of the wire of adjacent coils in a longitudinal direction of the coil spring. Applicant is directed to the attached Glossary of Spring Terminology, from Patrick Manufacturing Inc., cited in the PTO-892, *also available at* <http://www.patrickmfg.com/glossary2.htm> (last visited on 10/31/2008). In the present application the most that can be understood from the specification and arguments as filed is that applicant is referring to some part of the end of the spring portion at the end portion 20a as having a negative pitch. The applicant still does not provide any



information as to what having a "negative pitch" actually means, nor how this term is defined. Furthermore, this term as used appears to have nothing to do with the distance between adjacent coils. Moreover, it is completely unknown what frame of reference one of ordinary skill in the art would be expected to use, so as to determine whether the pitch is in fact negative. In other words what makes the variation in the pitch of an end portion of a corresponding end turn bearing against at least one support negative? Is this an angle relative to the long axis of the spring? What frame of reference makes this pitch negative? Is the frame of reference based on the adjacent coil? Is the term negative pitch the same as the term decreasing pitch, as used in the above cited Scheublein (US 3,773,346) reference, as seen in figure 2 of that reference? The above questions are just some of the reasons why the claim are indefinite, in other words, one is not put fairly on notice of what the claim covers, nor if the claim was to issue, are they put on fair notice of whether or not they are infringing the claim. Accordingly, appropriate correction and clarification is required.

As an additional point it appears that the applicant may be misusing an accepted definition to describe some other unknown aspect of the claimed coil spring. The applicant should note that where an applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). Here, the applicant never clearly

redefines their unordinary use of the term "pitch." Nor, do they explain what is meant by the term "negative" pitch.

8. Applicant's arguments with respect to claims 6-12, relative to the prior-art rejections, have been considered but are moot in view of the new ground(s) of rejection. It should be noted that the Examiner understands applicant to be arguing only that the previously cited prior art did not teach the use of the pitch of an end turn that is negative (See, Pg. 5, first paragraph of remarks). This is also understood based on the amendments to the claim. Accordingly, although it is still unclear what the terms of the claim mean based on the 112 issues in the claims, it is understood that the Applicant takes the position that the previous rejection in the non-final office action only taught a so called "zero pitch" and not a negative pitch. In the interests of compact prosecution and in light of the amended claims, the examiner is applying the rejection above, on the basis that based on the applicant's drawings, and those disclosed by the spring of Scheublein, it is believed that a so called "negative pitch" is disclosed, despite the fact that the Examiner and one of ordinary skill in the art is not given a clear understanding of what feature is being claimed.

#### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH ROCCA whose telephone number is (571)272-5191. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Q. Nguyen can be reached on 571-272-6952. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Q. Nguyen/  
Supervisory Patent Examiner, Art Unit 3616

/Joseph Rocca/  
Examiner, Art Unit 3616